

## EPA Official Record

**Mail ID:** b0f571299cbc4a88b19c0bb666e82cf7

**From:** Butler, Barbara

**To:** jfrantz@rangeresources.com

**Copy To:** Ford, Robert; Daniel.Soeder@NETL.DOE.GOV; Alexandra.Hakala@NETL.DOE.GOV; George.Darakos@NETL.DOE.GOV; Richard.Hammack@NETL.DOE.GOV; sroy@rangeresources.com; Gilliland, Alice

**Delivered Date:** 07/18/2013 01:54 PM EDT

**Subject:** RE: Ranking for Criteria

**Attachment:** Research Site Criteria Analysis (v1 6 6 13)\_Ranking\_V2.xlsx [21 KB]

Hi Joe,

Please find attached a revised criteria based on your prior edits and some additional clarity for item number 1 that DOE and EPA have discussed with regard to your question below. We would like to leave the criteria as mandatory, but have modified the text to indicate that we need this condition in a smaller area than an entire HUC 12 unit (I've read that the typical acreage for HUC12 ranges from 10 to 40 thousand acres, although we don't know how large a HUC12 unit is for the specific locations under consideration).

We recognize the fact that a site likely will be influenced by historic O&G activities, as well as other historic activities (mining, agriculture, etc) and this should be captured by the year's worth of background sampling. The need for the watershed in which we are sampling to not have existing newer HF drilling/fracturing activities is due to the fact that the study is to compare background with post HF drilling/fracturing activities. If prior activities of the same type exist in the drainage area we are to sample (or were placed during time of our background collection), we would not be able obtain a true background relative to the specific research question.

We hope this clarification regarding the watershed size will be helpful and allow a site to be identified for use.

We are happy to discuss if you have any additional questions or concerns.

Thanks,  
Barb

**From:** Joe Frantz [<mailto:jfrantz@rangeresources.com>]

**Sent:** Tuesday, July 16, 2013 8:29 AM

**To:** Butler, Barbara

**Cc:** Ford, Robert; Daniel Soeder; Alexandra Hakala; George Darakos; Richard Hammack; Scott Roy

**Subject:** RE: Ranking for Criteria

Hello everyone,

I wanted to see if you would consider changing your first criteria from mandatory to high. Based on the wide extent of the Marcellus drilling to date, It is unlikely you will find a HUC 12 watershed that does not contain at least one Marcellus horizontal well. If an operator does find a vacant watershed, it would probably represent a far step out that

would be difficult to justify drilling and leaving stranded for a long time. In addition, there has been over 100 years of drilling tens of thousands of shallow oil and gas wells across PA.

I'm just trying to help you put together realistic guidelines and wanted to pass along my observations.

Your thoughts?

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**From:** Butler, Barbara [<mailto:Butler.Barbara@epa.gov>]  
**Sent:** Wednesday, July 10, 2013 3:36 PM  
**To:** Joe Frantz  
**Cc:** Ford, Robert; Daniel Soeder; Alexandra Hakala; George Darakos; Richard Hammack; Scott Roy  
**Subject:** Ranking for Criteria

Hi Joe,

Please find attached the research criteria file with our levels of importance and justifications for each. They are ranked within each of the prior categories.

Please let us know if you have any questions.

Thanks,  
Barb

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